



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/631,796	08/01/2003	Mamoru Uchida	03560.003341.	1669
5514	7590	05/19/2005	EXAMINER	
FITZPATRICK CELLA HARPER & SCINTO 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			WOOD, KEVIN S	
			ART UNIT	PAPER NUMBER
			2874	
DATE MAILED: 05/19/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

4A

Office Action Summary

Application No.

10/631,796

Applicant(s)

MAMORU UCHIDA

Examiner

Kevin S. Wood

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/15/03.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

BEST AVAILABLE COPY

NON-FINAL REJECTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the apparatus being constructed as a cellular phone must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-13 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,324,328 to Mehlhorn et al.

Referring to claims 1 and 10, the Mehlhorn et al. reference discloses all the limitations of the claimed invention. The Mehlhorn et al. reference discloses a layered board comprising: a first layer (6,7) capable of transmitting an electrical signal and a second layer (1) capable of transmitting an optical signal; an insulating layer (19,20) interposed between said first layer and said second layer; and a signal connecting path (D) penetrating said insulating layer, said signal connecting path establishing interconnection of the signal between said first layer and said second layer, and said signal connecting path having both a function of transmitting the electrical signal and a function of transmitting the optical signal. See Fig. 1-7, along with their respective portions of the specification.

Referring to claim 2, the Mehlhorn et al. reference discloses all the limitations of the claimed invention. The Mehlhorn et al. reference discloses the signal connecting

path (D) has both the function of transmitting the electrical signal and the function of transmitting the optical signal in one united body. See col. 1, line 60 through col. 2, line 40.

Referring to claim 3, the Mehlhorn et al. reference discloses all the limitations of the claimed invention. The Mehlhorn et al. reference discloses the signal connecting path has the function of transmitting the electrical signal, and a portion of said signal connecting path has the function of transmitting the optical signal. See col. 1, line 60 through col. 2, line 40. Also see Fig. 4 and Fig. 6.

Referring to claim 4, the Mehlhorn et al. reference discloses all the limitations of the claimed invention. The Mehlhorn et al. reference does not specifically disclose that the central portion of the signal connecting path is an insulating material. See col. 1, line 60 through col. 2, line 40. It should be noted that the term "insulating" has a broad definition within the opto-electronic art, it could mean electrically insulating, optically insulating, thermally insulating or even sound insulating. It is inherent that the polyimide layer disclosed in the reference would have an insulating effect, such as sound insulating, as opposed to a hollow signal connecting path that would not be sound insulating.

Referring to claim 5, the Mehlhorn et al. reference discloses all the limitations of the claimed invention. The Mehlhorn et al. reference discloses a means for interchanging signal transmission through said signal connecting path between transmission of the electrical signal and transmission of the optical signal. See col. 1, line 60 through col. 2, line 40.

Referring to claim 6, the Mehlhorn et al. reference discloses all the limitations of the claimed invention. The Mehlhorn et al. reference discloses said first layer is comprised of an electrical wiring layer (6,7). See Fig. 1-7, along with their respective portions of the specification.

Referring to claim 7, the Mehlhorn et al. reference discloses all the limitations of the claimed invention. The Mehlhorn et al. reference discloses a plurality of electronic devices (23), said electronic devices being connected to each other through said signal connecting path. See Fig. 1-7, along with their respective portions of the specification.

Referring to claims 8 and 9, the Mehlhorn et al. reference discloses all the limitations of the claimed invention. The Mehlhorn et al. reference discloses an optical device (24), said electronic device and said signal connecting path being connected to each other through said optical device, where the optical device has a function of opto-electrical (OE) conversion, or a function of electro-optical (EO) conversion. See Fig. 1-7, along with their respective portions of the specification.

Referring to claim 11, the Mehlhorn et al. reference discloses all the limitations of the claimed invention. The Mehlhorn et al. reference discloses an optical waveguide layer capable of transmitting an optical signal in a planar manner in said waveguide layer (1); a second layer capable of transmitting an electrical signal (6,7) and an optical signal; an insulating layer (19,20) interposed between said optical waveguide layer and said second layer; a signal connecting path (D) penetrating said insulating layer, said signal connecting path establishing interconnection of the signal between said optical waveguide layer and said second layer, and said signal connecting path having both a

function of transmitting the electrical signal and a function of transmitting the optical signal; and a plurality of electronic devices (23), said electronic devices being connected to each other through said signal connecting path. See Fig. 1-7, along with their respective portions of the specification.

Referring to claim 12, the Mehlhorn et al. reference discloses all the limitations of the claimed invention. The Mehlhorn et al. reference discloses a light scattering structure, said light scattering structure (27) being disposed in said optical waveguide layer, and the signal being transmitted between said signal connecting path and said optical waveguide layer through said light scattering structure. See Fig. 1-7, along with their respective portions of the specification.

Referring to claim 13, the Mehlhorn et al. reference discloses all the limitations of the claimed invention. The Mehlhorn et al. reference discloses a layered board including a first layer (1) capable of transmitting at least an optical signal; a second layer (6,7) capable of transmitting at least an electrical signal; an insulating layer (19,20) interposed between said first layer and said second layer; and a signal connecting path (D) penetrating said insulating layer, said signal connecting path establishing interconnection of the signal between said first layer and said second layer, and said signal connecting path having both a function of transmitting the electrical signal and a function of transmitting the optical signal; means for transmitting and receiving a high-frequency signal (23,24); and means for processing the signal (23,24).

Allowable Subject Matter

4. Claim 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. The following is a statement of reasons for the indication of allowable subject matter:

Referring to claim 14, the prior art does not appear to specifically disclose that the apparatus is constructed as a cell phone.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S. Wood whose telephone number is (571) 272-2364. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B. Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Kevin S. Wood



AKM ENAYET ULLAH
PRIMARY EXAMINER

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ BLACK BORDERS
- ☐ IMAGE CUT OFF AT TOP, BOTTOM OR SIDES
- ☐ FADED TEXT OR DRAWING
- ☐ BLURRED OR ILLEGIBLE TEXT OR DRAWING
- ☐ SKEWED/SLANTED IMAGES
- ☐ COLOR OR BLACK AND WHITE PHOTOGRAPHS
- ☐ GRAY SCALE DOCUMENTS
- ☐ LINES OR MARKS ON ORIGINAL DOCUMENT
- ☐ REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY
- ☐ OTHER: _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.